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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,351	08/04/2003	Chon Yie Lin	2002B107A	8824
23455 7590 06/07/2007 EXXONMOBIL CHEMICAL COMPANY 5200 BAYWAY DRIVE P.O. BOX 2149 BAYTOWN, TX 77522-2149			EXAMINER LEE, RIP A	
			ART UNIT 1713	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/634,351	Applicant(s) LIN ET AL.	
	Examiner Rip A. Lee	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 15-20, 22-33, 35, 57-70, 73-86 and 88 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 15-20, 22-33, 35, 57-70, 73-86, and 88 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10-10-2006;05-12-2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action follows a request for continued examination (RCE) under 37 § C.F.R. 1.114, filed on October 10, 2006. The indicated allowability of claims has been withdrawn in view of the newly discovered references. Rejections based on the newly cited references follow.

Claim Rejections - 35 USC § 102 / 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claim 59 is rejected under 35 U.S.C. 102(b) as being anticipated by Klingensmith *et al.* (U.S. 4,536,537).

Klingensmith *et al.* teaches a rubberless high impact polypropylene composition comprising 65-78 wt % of propylene homopolymer, 18-25 wt % of LLDPE ($d = 0.912-0.935$), and 4-10 wt % of hydrocarbon plasticizer being a hydrogenated, highly branched, dimer of alpha-olefin containing about 8-12 carbon atoms having a kinematic viscosity @ 38 °C of 6.5-40 cSt (claim 1). From the text, one learns that a decene dimer having KV₁₀₀ of 1.8 cSt, a pour point of -68 °C, and molecular weight of 282 is useful for practicing the invention (col. 5, lines 45-52). Such hydrocarbon plasticizers appear to be commercially available as Synfluid 2CS, Synfluid 4CS, and Synfluid 6CS (Table 1).

3. Claim 62 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Klingensmith *et al.*

The discussion of the disclosures of the prior art from the previous paragraph of this office action is incorporated here by reference. Klingensmith *et al.* is silent regarding the properties recited in the instant claim, however, in light of the fact that the composition of the prior art is essentially the same as that recited in the instant claim, a reasonable basis exists to believe that the composition exhibits the claimed properties. Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish an unobviousness difference. *In*

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re Fitzgerald, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

4. Claims 1-12, 20, 33, 57, 58, 86, and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klingensmith *et al.* in view of Matteoli *et al.* (U.S. 4,113,802).

According to the inventors, the polypropylene component should possess a high level of low temperature impact strength (col. 1, line 6), and thus, it is a substantially isotactic polypropylene which is prepared by a Ziegler-Natta catalyst (col. 4, line 45). Klingensmith *et al.* does not quantify “substantially isotactic polypropylene.” Articles prepared from inventive compositions include automobile trim parts and contain standard additives such as nucleating agent, pigment, antistatic additives, and filler (col. 6, lines 25-32).

Matteoli *et al.* teaches preparation of polypropylene compositions having high impact strength at low temperatures (see title). Said polypropylenes, prepared using standard Ziegler-Natta catalysts, are substantially isotactic with isotacticity indices in the range of 90-93.5 % (col. 8, Table 1).

Since the isotactic polypropylenes of Matteoli *et al.* exhibit the requisite features prescribed in Klingensmith *et al.*, one having ordinary skill in the art would have found it obvious to use the isotactic polypropylenes of Matteoli *et al.* for the polypropylene component in the composition of Klingensmith *et al.* and thereby arrive at the subject matter of the instant claims, and he would have expected such a combination to produce a useful high impact polypropylene product with a reasonable expectation of success. The combination is obvious because Klingensmith *et al.* teaches a particular polypropylene and Matteoli *et al.* furnishes the otherwise obvious missing element.

Klingensmith *et al.* is silent regarding properties of the hydrocarbon plasticizer as recited in instant claims 8 and 9, as well as properties of the overall composition as recited in claims 5 and 33. However, a reasonable basis exists to believe that the properties are exhibited by the materials in the prior art, especially in light of the fact that they are essentially the same as that recited in the instant claims. Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish an unobviousness difference. *In re Best*, 562 F.2d 1252, 1255, 195

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USPQ 430, 433 (CCPA 1977). *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

5. Claims 18, 59, and 77 are rejected under 35 U.S.C. 102(b) as being anticipated by Suokas *et al.* (WO 98/44041).

Suokas *et al.* discloses a melt blend of a polyolefin matrix and 0.5-100 parts by weight of liquid polyalphaolefin plasticizer comprised of oligomers of C₆-C₁₂ alpha olefins (claims 1-9, page 8, lines 5-11). Exemplary plasticizers are commercially available as Nexbase 2004 (KV₁₀₀ = 3.8-4.1 cSt, VI = 123, pour point = -69 °C, *d* = 0.810-0.840) and Nexbase 2008 (viscosity at 100 °C = 7.9 cSt, VI = 137, pour point = -60 °C, *d* = 0.810-0.840); see page 9, lines 1-12 and product data sheet.¹ The polyolefin matrix is propylene homopolymer or propylene copolymer containing up to 20 wt % of ethylene or C₄-C₁₀ alpha olefin comonomer (page 4, lines 35 to page 5, line 2). Use of plastomer for modifying properties of thermoplastic polyolefins is taught on page 5, lines 30-33.

6. Claim 62 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Suokas *et al.*

The discussion of the disclosures of the prior art from the previous paragraph of this office action is incorporated here by reference. Suokas *et al.* is silent regarding properties recited in the instant claim, however, in light of the fact that the composition of the prior art is essentially the same as that recited in the instant claim, a reasonable basis exists to believe that the composition also exhibits the claimed properties. Since the PTO can not conduct experiments, the burden of proof is shifted to the Applicants to establish an unobviousness difference. *In re Fitzgerald*, 619 F.2d. 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112-2112.02. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977).

7. Claims 1-12, 16, 19, 20, 33, 57, 58, and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suokas *et al.* in view of Traugott *et al.* (U.S. 6,403,692).

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Suokas *et al.* is silent regarding the nature of the propylene homopolymer or propylene copolymer. Traugott *et al.* teaches a thermoplastic composition that is melt processable, and possesses stiffness, toughness, and improved scuff resistance, properties of which, are desirable in floor coverings (col. 1, line 12). The base resin best suited for such application is isotactic polypropylene which is commercially available as Amoco 9934 (col. 12, line 32). This is an isotactic polypropylene homopolymer having an isotactic index of 96 %.² One having ordinary skill in the art would have found it obvious to use a highly isotactic polypropylene as the base resin for making floor coverings of Suokas *et al.* because Traugott *et al.* teaches that compositions prepared from isotactic polypropylene are well-suited for such an application because they exhibit stiffness, toughness, and good scuff resistance.

Traugott *et al.* discloses use of slip agent, which is apparently for demolding during extrusion (col. 10, line 50 - col. 11, line 12). The inventors also indicate that compositions can be made into film or sheet, in which case, one skilled in the art would find it obvious to use slip agent to prevent interlayer adhesion during processing. Since this is well-established practice in the art, it would have been obvious to one having ordinary skill in the art to include slip agent in order to facilitate processing of extruded articles. Suokas *et al.* is silent regarding properties of the hydrocarbon plasticizer as recited in instant claims 8, 11, and 12,³ as well as properties of the overall composition as recited in claims 5 and 33. However, a reasonable basis exists to believe that the properties are exhibited by the materials in the prior art, especially in light of the fact that they are essentially the same as that recited in the instant claims. Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish an unobviousness difference. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

¹ See Neste Oil Technical Data Sheet, Nexbase polyalphaolefins.

² See Jacoby *et al.* (U.S. 5,916,953), table in col. 8.

³ Rheological properties depend, in part, on the molecular weight of the material. Since the plasticizer in Suokas *et al.* exhibits these properties, it is reasonable to expect that the molecular weight lies in the rather broad range recited in the instant claims.

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8. Claims 65-70, 73-76, and 78-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suokas *et al.* in view of Mikielski *et al.* (WO 01/02482 ; equivalent U.S. 6,803,415 relied upon for translation) and Dharmarajan *et al.* (*Plastics Engineering*, 1996).

Suokas *et al.* clearly contemplates use of plasticizer for modifying properties of thermoplastic polyolefins, and use of metallocene plasticizer is suggested (page 5, lines 30-33). The reference is silent regarding the nature of this plasticizer.

Mikielski *et al.* discloses use of metallocene catalyzed random copolymers of ethylene and C₃-C₁₀ alpha olefin, *i.e.*, 1-butene, 1-hexene, and 1-octene ($d = 0.860-0.920 \text{ g/cm}^3$, M_w/M_n less than 4) as useful plastomer for this purpose; see claim 1 and col. 3, line 44 - col. 4, line 2. One exemplified plastomer is commercially available as Exact 8201 (C₂/C₈ (26-30 wt %) copolymer, $d = 0.882 \text{ g/cm}^3$, $M_w/M_n = 2.4$, see col. 6, lines 12-18).

Suokas *et al.* also indicates that plasticizers disclosed in Dharmarajan *et al.* are useful for the invention (page 5, line 33). Turning to the secondary reference, one discovers that these plasticizers are commercially available as Exact 4033. This is a metallocene catalyzed random copolymer of ethylene and butene with a density of 0.88, 1 % secant modulus of 3300 psi (22.7 Mpa), and melting point of 60 °C.⁴

It would have been obvious to one having ordinary skill in the art, in absence of any showing of criticality or unexpected results, to use plastomer shown in the prior art as the plasticizer component in compositions of Suokas *et al.*, and one having ordinary skill in the art would have expected such a combination to result in a useful product. The combination is obvious because Suokas *et al.* teaches the plastomer component and Mikielski *et al.* and Dharmarajan *et al.* provide the otherwise obvious missing element.

The references do not disclose all physical properties of plastomer, as indicated in the instant claims. However, in light of the fact that they are essentially the same as that described in the instant claims, a reasonable basis exists to believe that the plastomers of the prior art exhibit essentially the same properties. Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish an unobviousness difference. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

9. Claims 17, 22-32, 35, and 60-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suokas *et al.* in view of Berta *et al.* (U.S. 5,143,978).

Suokas *et al.* also contemplates use of blends for the polyolefin matrix. In this connection, the inventors disclose blends of propylene based polymer with polyolefin elastomer such as those taught in Berta *et al.* (page 5, lines 25-29). Turning to the secondary reference, one finds that a useful blend is comprised of 20-70 parts by weight (pw) of an isotactic polypropylene (isotacticity > 90 %) and 20-60 pw of an amorphous ethylene-propylene copolymer rubber having an ethylene content of 40-70 % (claim 1, col. 2, line 23). It would have been obvious to one having ordinary skill in the art to use the polypropylene blend taught in Berta *et al.* as the polyolefin matrix of Suokas *et al.* because the inventors clearly contemplate such an embodiment. The combination is especially obvious since Suokas *et al.* cites Berta *et al.* directly in the patent.

Suokas *et al.* is silent regarding properties of the hydrocarbon plasticizer as recited in instant claims 28, 31, and 32,³ as well as properties of the overall composition as recited in claims 25 and 62. However, a reasonable basis exists to believe that the properties are exhibited by the materials in the prior art, especially in light of the fact that they are essentially the same as that recited in the instant claims. Since the PTO can not perform experiments, the burden is shifted to the Applicants to establish an unobviousness difference. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Suokas *et al.* teaches extruding the plastic composition into a sheet-like product (floor covering), and therefore, one having ordinary skill in the art would have found it obvious to practice the invention of the patent and make sheet-like material, and thereby arrive at the subject matter of claim 35.

⁴ See also, Yu (U.S. 6,207,754), Table 7.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-12, 15-20, 22-33, 35, 57-70; 73-86, and 88 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-35 and 57-89 of copending Application No. 11/433,623. Although the conflicting claims are not identical, they are not patentably distinct from each other because of overlapping subject matter. Both inventions are drawn to essentially the same composition comprising 60-99.9 wt % of propylene homo/copolymer/impact copolymer and 0.1-40 wt % of non-functionalized plasticizer made of C₆-C₂₀₀ paraffins and having a pour point of less than -30 °C, and wherein elastomers are substantially absent in the composition.

This is a *provisional* obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

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May 13, 2007



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